

- Convert  $62^\circ 37' 18''$  to decimal degrees.
- Given  $\triangle ABC$  with  $\angle C = 90^\circ$ ,  $a = 8$ ,  $c = 12$  find all six trig ratios for  $\angle A$ .
- Solve for remaining sides and angles of  $\triangle ABC$  given:  
 $\angle B = 54^\circ$ ,  $\angle C = 90^\circ$ ,  $a = 18$ .
- A swimming pool is 3 feet deep in the shallow end. The bottom of the pool has a steady downward drop of  $12^\circ$  toward the deep end. If the pool is 50 feet long, how deep is the deep end of the pool?
- Solve for remaining sides and angles of  $\triangle ABC$  given:  
 $a = 15$ ,  $b = 9$ ,  $c = 18$ .
- Solve for remaining sides and angles of  $\triangle ABC$  given:  
 $\angle B = 20^\circ$ ,  $\angle C = 31^\circ$ ,  $b = 21$ .
- Solve for remaining sides and angles of  $\triangle ABC$  given:  
 $\angle A = 34^\circ$ ,  $b = 12$ ,  $a = 9$ .
- The side of a hill makes an angle of  $12^\circ$  with the horizontal. A wire is to be run from the top of a 175-foot tower on the top of the hill to a stake located 120 feet down the hillside from the base of the tower. What length of wire is needed?
- A radio tower is held vertical by a pair of guy wires that run from stakes in the ground to the top of the tower. The stakes are on opposite sides of the tower 200 meters apart. If the angles of elevation from the stakes to the top of the tower are  $38^\circ$  and  $51^\circ$  respectively, find the length of the shorter wire. Assume the ground is level.
- Find the area of the triangle from problem # 5.

**Bonus.** Find the area of an isosceles triangle with base angle of  $40^\circ$  whose altitude has endpoints  $(2, 1)$  and  $(5, -3)$ .

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2. \_\_\_\_\_

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4. \_\_\_\_\_

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6. \_\_\_\_\_

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7. \_\_\_\_\_

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8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

**Bonus** \_\_\_\_\_